

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
3 March 2005 (03.03.2005)

PCT

(10) International Publication Number
WO 2005/020068 A2

(51) International Patent Classification⁷: G06F 9/40 (74) Agent: NEEDLE, Jacqueline; Beck Greener, Fulwood House, 12 Fulwood Place, London WC1V 6HR (GB).

(21) International Application Number: PCT/GB2004/003560 (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date: 19 August 2004 (19.08.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 0319596.3 20 August 2003 (20.08.2003) GB

(71) Applicant (for all designated States except US): MACRO-VISION EUROPE LIMITED [GB/GB]; Malvern House, 14-18 Bell Street, Maidenhead, Berkshire SL61BR (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): STIEMENS, Alan, Walter [GB/GB]; 23 Cambrian Way, Reading, Berkshire RG31 7DD (GB). GRAY, Martin, Clive [GB/GB]; 65 Blagrove Drive, Wokingham, Berkshire RG41 4BD (GB). SULLEY, Christopher, Edward [GB/GB]; 2 Hamlot Street, Warfield, Bracknell, Berkshire RG42 3TT (GB).

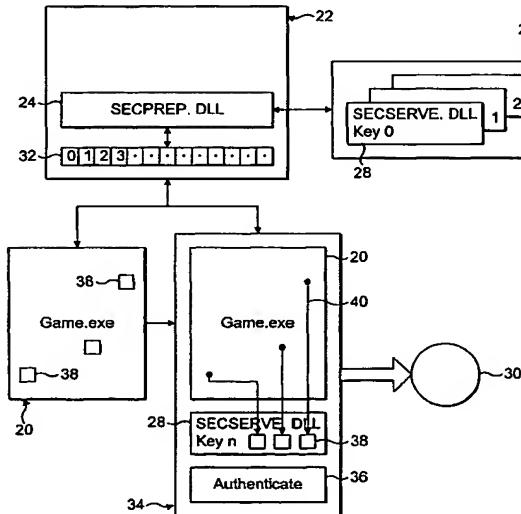
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

[Continued on next page]

(54) Title: CODE OBFUSCATION AND CONTROLLING A PROCESSOR BY EMULATION



(57) Abstract: An individual security program (28) is randomly chosen by way of a respective key (32) and is then packaged with a games program (20) to provide an executable program file (34) which is applied to a storage media, such as an optical disc (30). Whenever the security program (28) is running, the object code it produces is obfuscated to make it difficult to overcome the protection by identifying and removing the security program. The obfuscated object code is produced by substituting a variable in source code with a function of the variable. When the source code is compiled to produce the object code, the function causes the variable to be presented in the compiled object code as a series of operations.

WO 2005/020068 A2



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.